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Proposed Maximum Residue Limit

PMRL2009-04

# Sulfuryl Fluoride

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**Canada**

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On 20 December 2006, Health Canada's Pest Management Regulatory Agency (PMRA) published and sought comments on Proposed Maximum Residue Limit document PMRL2006-01, Transitioning the Legal Establishment of Maximum Residue Limits (MRLs) for Pesticides from the Food and Drugs Act to the Pest Control Products Act: Consultation on Proposed MRLs. Comments were received regarding the import MRLs proposed for sulfuryl fluoride on tree nuts, which led to a re-examination of the fumigation trial data submitted to support the MRLs on almonds, pecans, pistachios and walnuts.

This re-examination led to the removal of almonds and walnuts from the MRLs to be established for sulfuryl fluoride as communicated in Appendix I of Established Maximum Residue Limit document EMRL2008-02, Transitioning the Legal Establishment of Maximum Residue Limits (MRLs) for Pesticides From the Food and Drugs Act to the Pest Control Products Act: Establishment of MRLs, published on 9 July 2008. The EMRL further noted that revised MRLs for sulfuryl fluoride on almonds and walnuts would be published for consultation in a future Proposed Maximum Residue Limit (PMRL) document.

This PMRL proposes a revised MRL for sulfuryl fluoride on almonds and a new MRL on raisins. Data supporting the MRL on raisins were reviewed at the time of the original application for the import MRLs but raisins were inadvertently omitted from PMRL2006-01. Consultation on the proposed MRLs for sulfuryl fluoride is being conducted via this document (see Next Steps). The supporting fumigation trial data are summarized in Appendix I.

The proposed import MRLs for sulfuryl fluoride in Canada in or on food, to be added to those currently established, are as follows.

**Table 1      Proposed Maximum Residue Limits for Sulfuryl Fluoride**

Common Name	Residue Definition	MRL (ppm)	Food Commodity
Sulfuryl fluoride	sulfuryl fluoride	0.04	Almonds
		0.01	Raisins

A complete list of all MRLs established in Canada can be found on the PMRA's MRL webpage.

### **International Situation and Trade Implications**

MRLs may vary from one country to another for a number of reasons, including differences in pesticide use patterns and the locations of the field crop trials used to generate residue chemistry data. As per Table 2, the proposed Canadian MRLs differ from both the corresponding tolerances established in the United States (tolerances listed in 40 CFR Part 180 by pesticide) and the Codex<sup>1</sup> MRLs (Codex MRLs searchable by pesticide or commodity).

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<sup>1</sup> Codex is an international organization under the auspices of the United Nations that develops international food standards, including MRLs.

**Table 2 Comparison of the Canadian MRLs, American Tolerances and Codex MRLs**

<b>Food Commodity</b>	<b>Canadian MRL (ppm)</b>	<b>American Tolerance (ppm)</b>	<b>Codex MRL (ppm)</b>
Almonds	0.04	3.0 <sup>a</sup>	3.0 <sup>c</sup>
Raisins	0.01	0.05 <sup>b</sup>	0.06 <sup>d</sup>

<sup>a</sup> Corresponding tolerance established on "Nut, tree, Group 14, postharvest".

<sup>b</sup> Corresponding tolerance established on "Fruit, dried, postharvest".

<sup>c</sup> Corresponding MRL established on "Tree nuts".

<sup>d</sup> Corresponding MRL established on "Dried fruits".

Although the Canadian MRLs and American tolerances may be numerically different, there is no expectation that, if used according to the registered American label, the residues of sulfuryl fluoride will exceed the maximum levels reported in the fumigation trials upon which the proposed Canadian MRLs are based. Therefore, the differences between MRLs and tolerances should not result in real trade barriers.

### **Next Steps**

The PMRA invites the public to submit written comments on the proposed MRLs for sulfuryl fluoride up to 75 days from the date of publication of this document. Please forward your comments to Publications (see the contact information on the cover page of this document). The PMRA will consider all comments received before making a final decision on the proposed MRLs for sulfuryl fluoride and before posting an Established Maximum Residue Limit document on the PMRA website.

## Appendix I

### Almonds

The table below summarizes the almond results from the submitted fumigation trials.

Maximum residues of sulfuryl fluoride in or on almonds of 40 ppb resulted from a single maximum dosage of 1517–1539 mg•hr/L under normal atmospheric pressure (equivalent to the American label) and an aeration period of one day.

Summary of Almond Residue Data from Crop Fumigation Trials with Sulfuryl Fluoride								
Crop	Fumigation Number	Fumigation Rate (mg•hr/L)	Aeration Time (Days)	Number of Samples	Residue Levels of Sulfuryl Fluoride (ppb)			
					Minimum	Maximum	Mean	Standard Deviation
Single fumigation at normal atmospheric pressure								
Almonds	1	203	1	4	8.9	12.4	11.03	1.55
Single fumigation at normal atmospheric pressure								
Almonds	1	1539	1	4	28.0	40.0	33.5	4.93
Single fumigation under vacuum								
Almonds	1	218	1	4	12.0	20.0	15.5	4.12

Based upon the maximum residue observed in the treated commodities, an MRL of 0.04 ppm on almonds is proposed.

A dietary exposure assessment has demonstrated that residues at the proposed MRL on almonds will not result in a human health concern to any segment of the population, including infants, children and seniors.

### Raisins

According to the submitted fumigation trials summarized in the table below, maximum residues of sulfuryl fluoride in or on raisins of 4.2 ppb resulted from a single maximum dosage of 2467–2551 mg•hr/L under normal atmospheric pressure (equivalent to twice the American label) and an aeration period of 1 day.

Summary of Raisin Residue Data from Crop Fumigation Trials with Sulfuryl Fluoride								
Crop	Fumigation Number	Fumigation Rate (mg•hr/L)	Aeration Time (Days)	Number of Samples	Residue Levels of Sulfuryl Fluoride (ppb)			
					Minimum	Maximum	Mean	Standard Deviation
Single fumigation at normal atmospheric pressure								
Raisins	1	2467-2551	1	4	<4.2	<4.2	<4.2	—
Single fumigation under vacuum								
Raisins	1	221	1	4	<2.1	<2.1	<2.1	—

Based on the maximum residue observed in the fumigation trials, an MRL of 0.01 ppm for raisins is proposed.

A dietary exposure assessment has demonstrated that residues at the proposed MRL for raisins will not result in a human health concern to any segment of the population, including infants, children and seniors.



